



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/806,801

03/23/2004

Arthur V. Hawley

03-0194

2906

63076 7590 12/26/2007
KLEIN, O'NEILL & SINGH, LLP
43 CORPORATE PARK
SUITE 204
IRVINE, CA 92606

EXAMINER

THOMAS, LUCY M

ART UNIT

PAPER NUMBER

2836

MAIL DATE

DELIVERY MODE

12/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

TH

Office Action Summary

Application No.

10/806,801

Applicant(s)

HAWLEY, ARTHUR V.

Examiner

Lucy Thomas

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10 and 12-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-10 and 12-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2, 4, 7-10, 12, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuras et al. (US 5, 698, 316). Regarding Claim 1, Kuras discloses an apparatus (see Abstract, Figure 1) for protecting a composite-body aircraft against damage from lightning strikes comprising an aircraft body including a plurality of composite panels 14; and a plurality of electrically conductive splice plates 32 which join one of the plurality of composite panels to an adjacent ones of the plurality of composite panels at their respective edges (see edges of panels 14a and 14 b joined by 32 in Figure 2), the plurality of electrically conductive splice plates directly electrically coupled to adjacent ones of the plurality of electrically conductive splice plates (adjacent splice plates 32 are directly electrically coupled for the passage of lightning strike energy, see Figure 2, Column 7, lines 23-32) to form a continuous, electrically conductive grid disposed on the exterior surface of the aircraft body (32 is on the exterior surface of the aircraft body and there is electrical coupling between adjacent 32, and form a continuous grid, see Column 1, lines 12-15, 42-50, Column 5, lines 1-9).

Regarding Claim 2, Kuras discloses the apparatus, wherein the continuous, electrically conductive grid extends to the outermost lateral periphery of the aircraft body (32 is on the exterior of the aircraft body).

Regarding Claim 4, Kuras discloses the apparatus, wherein the respective adjacent ends of the electrically, conductive splice plates are electrically coupled to each other by electrically conductive fasteners 20 extending through adjacent ends of the splice plates and an electrically conductive strap extending between the adjacent ends thereof.

Regarding Claim 7, Kuras discloses the apparatus, wherein the plurality of composite panels comprises graphite fibers (Column 4, lines 28-30).

Regarding Claim 8, Kuras discloses the apparatus, wherein the aircraft body includes an electrical system, and wherein the electrically conductive grid comprises a ground return path of the electrical system (Column 1, lines 51-58).

Regarding Claims 9-10, 12, and 15-16, the recited steps of the method claims would necessarily be performed when using the apparatus recited in Claim/s 1-2, 4, and 7-8. Therefore, please see the rejection/s for Claims 1-2, 4, and 7-8 recited above.

Regarding Claim 9, Kuras discloses a plurality of polygonal composite panels (see 14a, 14b in Figure 2)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuras et al. (US 5,698,316). Regarding Claims 5 and 13, although Kuras does not disclose using titanium for the conductive splice plates, he does disclose the use of titanium as connector. It would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized titanium for the splice plates also for its superior material properties, strength, weight, and electric potential.

5. Claims 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuras et al. (US 5,698,316) in view of Sankrithi (US 6,666,406). Regarding Claims 6 and 14, Kuras does not disclose that the aircraft a blended-wing-body ("BWB") type aircraft. Sankrithi discloses a blended wing aircraft is made of composite materials (column 3, lines 12-15). It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the plurality of splice plates of Kuras in blended wing aircraft because Sankrithi teaches these aircraft have composite panels and Kuras teaches such panels need protection.

Response to Arguments

6. Applicant's arguments filed on 10/04/2007 have been fully considered.

7. Regarding Applicant's arguments toward Kuras reference: Kuras discloses plurality of splice plates (see 32 in Figure 3). In Column 7, lines 24-32, Kuras discloses that "it is not necessary that the entire joint 16 between two adjacent panels be covered by the bridge 22, however," which indicates that it is possible to have some distance

between the splice plates (the distance between them is being no more than one meter, and still will be directly electrically coupled, as they allow the passage of lightning strike energy). Kuras discloses splice plates directly electrically coupled, with no gap between the splice plates as well as a gap no more than one meter. Since the continuous bridge is not necessary to form a continuous electrically conductive path, designer has the option to leave a space of no more than one meter, to save cost and reduce weight. Splice plates 32 are on the exterior of the aircraft body, and form continuous, electrically conductive grid. Therefore, the reference meets the limitations of Claim1.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucy Thomas whose telephone number is 571-272-6002. The examiner can normally be reached on Monday - Friday 8:00 AM - 4:30 PM EST.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Application/Control Number:
10/806,801
Art Unit: 2836

Page 6

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LT
December 17, 2007

 12/20/07
MICHAEL SHERRY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2000